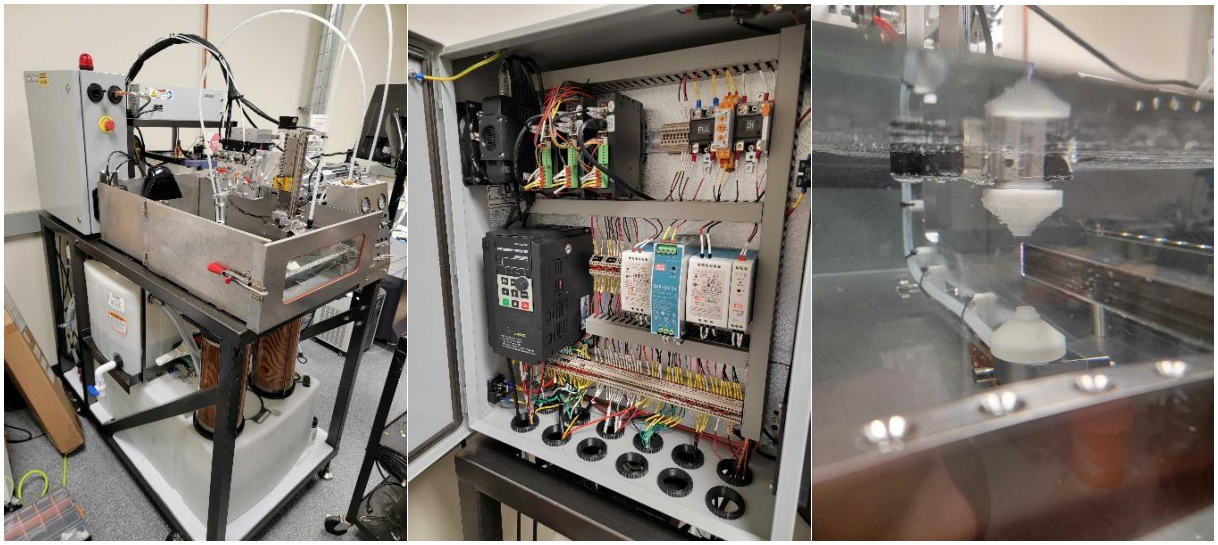
Sean Kintner Portfolio of Projects

Wire EDM

- Designed and simulated in SolidWorks
- Fabricated with assorted CNC mills, lathes and IPG Lightweld laser welder.
- Cuts any conductive material with a .25mm width of cut at 10um positional accuracy.

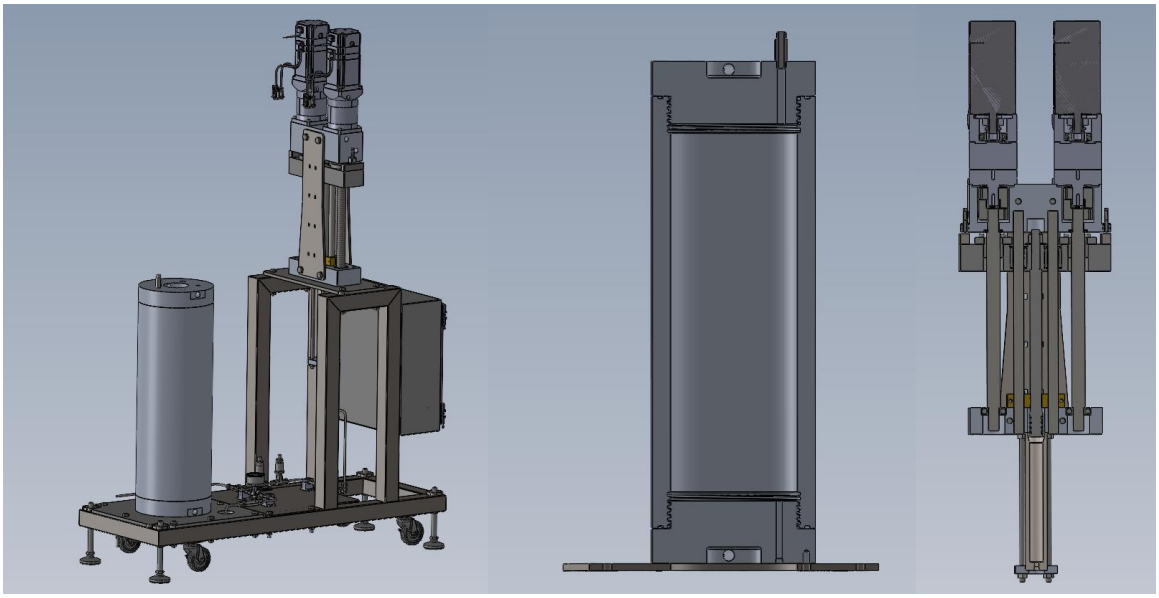


Roboquest Demonstration Robot

- Designed in SolidWorks
- 80% 3D Printed
- Built 10 Assemblies

Pressure Test Stand (In Progress)

- Designed in SolidWorks and simulated in both SolidWorks and Ansys Mechanical
- Designed according to ASME Boiler and Pressure Vessel Code.
- Intended to simulate 1000m depth (1500 psi) to test future underwater robotics platforms. Designed to accommodate up to 6” diameter Blue Robotics pressure rated enclosures.
- Uses a custom electric ram driven piston cylinder to pressurize system.

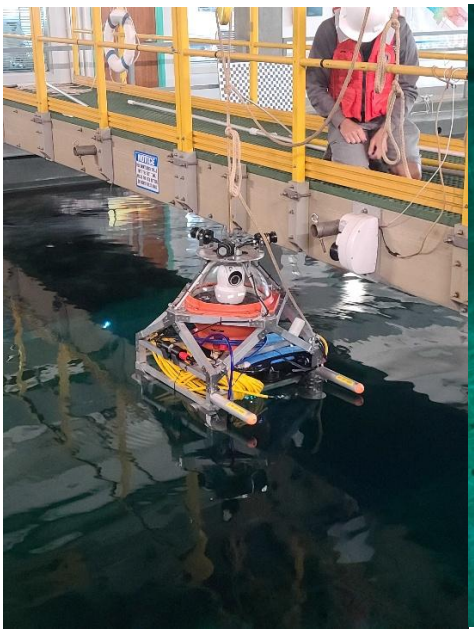


XPrize Wildfire Detection Tower

- Designed and fabricated structural frame and 4 bar mechanism for solar panel.
- Wired electronics enclosure for sensor head.

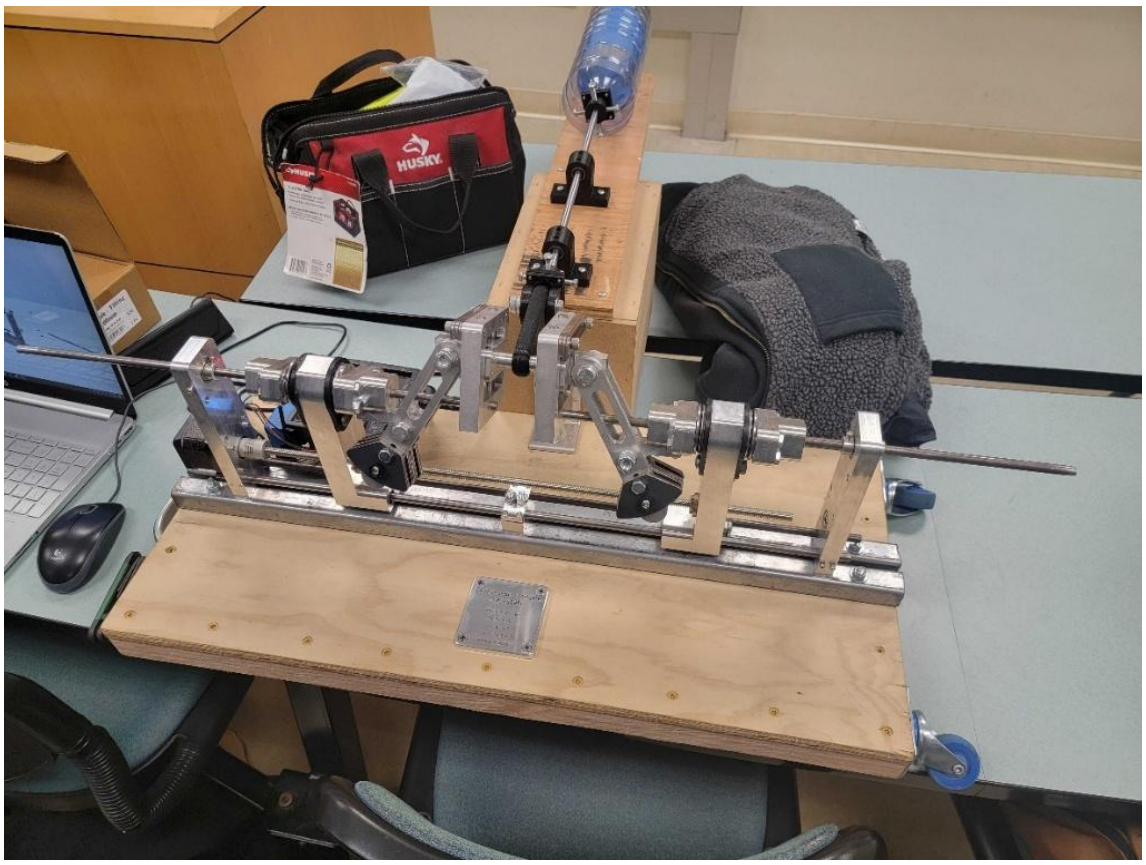
Undersea Robotics Platform

- Welded and machined parts for structural frame.
- Platform currently submerged 900m on the bottom of the Monterey Bay.



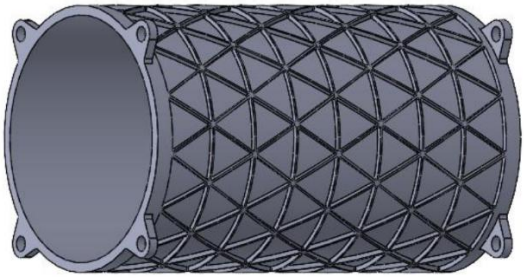
Continuously Variable Crankshaft (Final Project Mechanism Design Course)

- Gave DFM recommendations to the lead designer.
- CNC machined majority of aluminum and steel components.

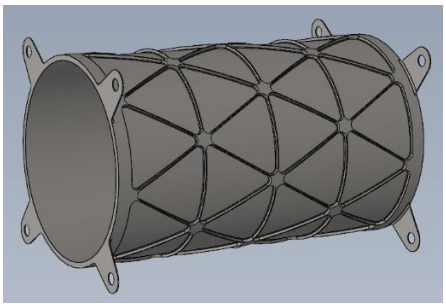


Optimization of Iso-grid Structure (Term Project for Finite Element Method Course)

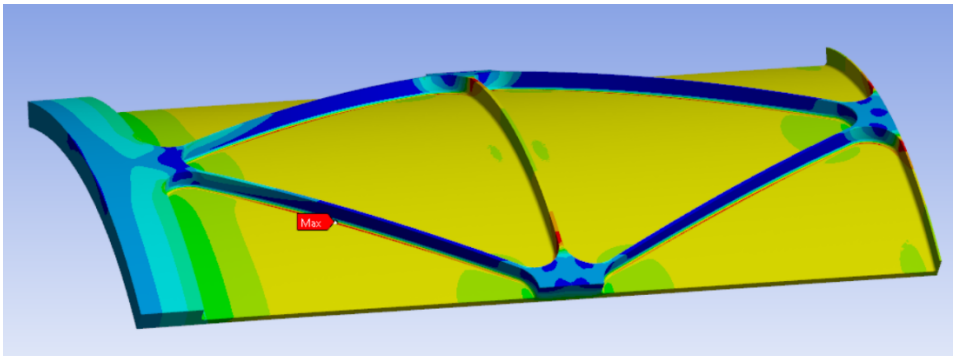
- Simulation and sensitivity study conducted in Ansys Mechanical
- Purpose of study was to mass optimize Titanium iso-grid chamber while keeping safety factor equal to 1.5.
- Sensitivity Study conducted using response surface optimization, with rib thickness and radial thickness being the input parameters.



Concept



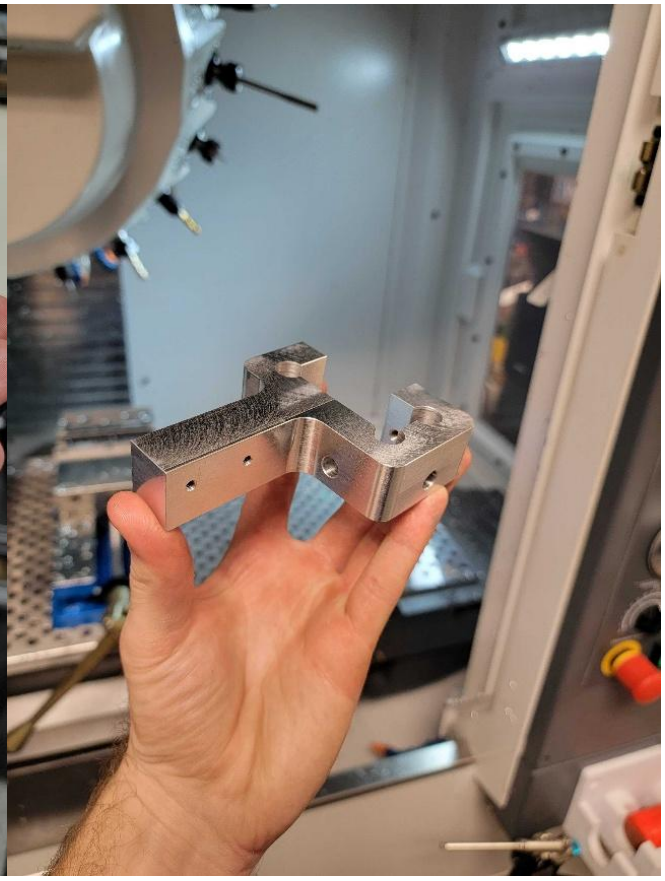
Final

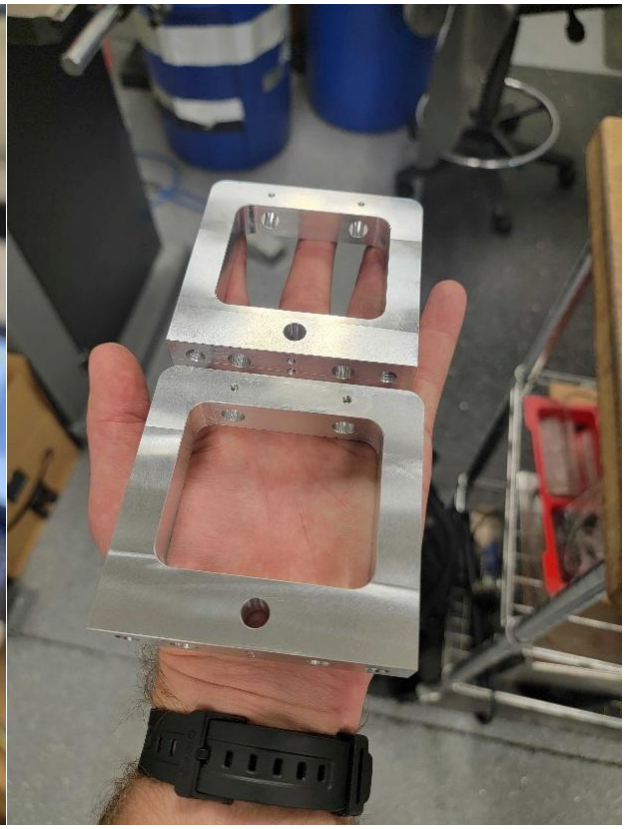


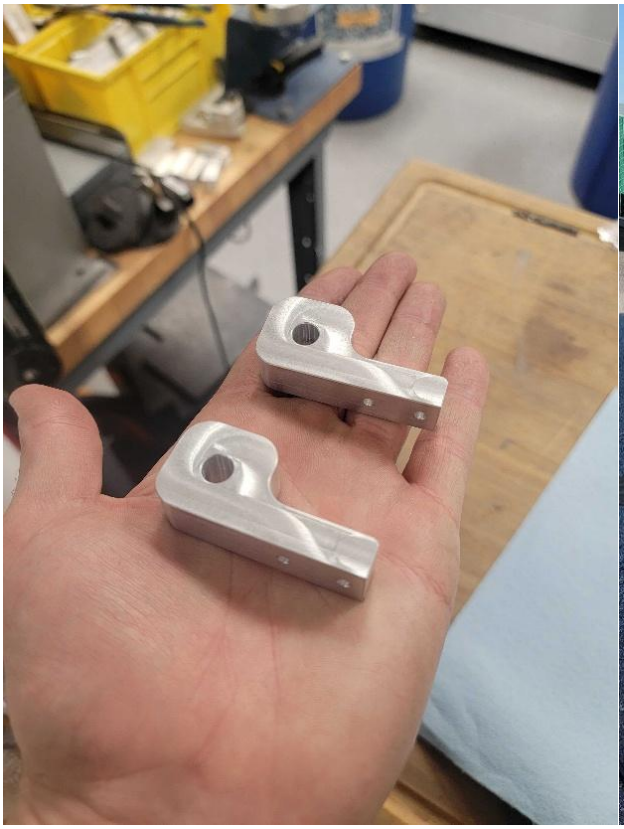
Fully Automated Garage Hydroponic Farm

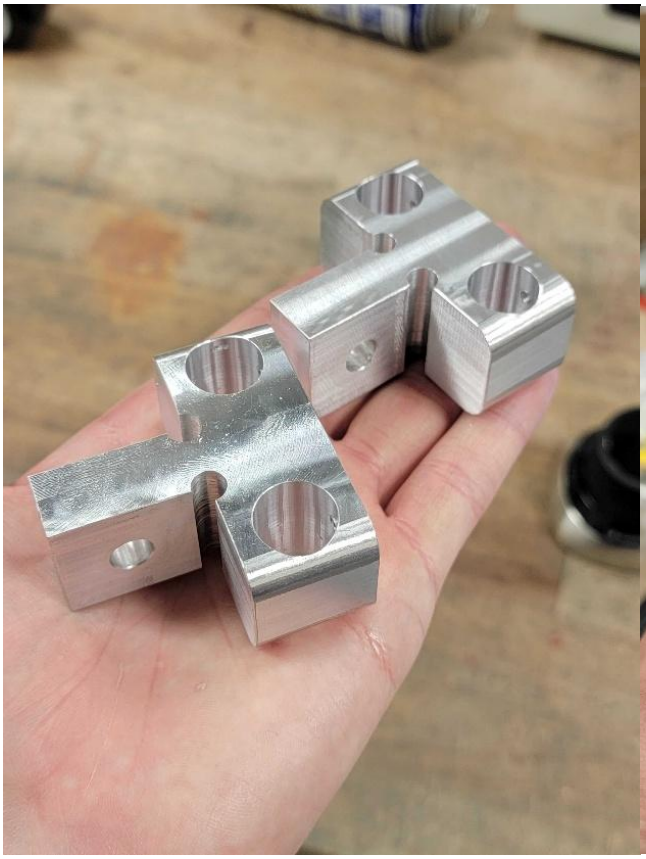
- Fully Automated indoor hydroponic farm for growing leafy greens like lettuce, kale, spinach etc.
- Uses raspberry pi to control peristaltic pumps for dosing nutrients, controlling light cycle and sensing pH and electrical conductivity of water in reservoir.

Portfolio of Parts







Teammates Names

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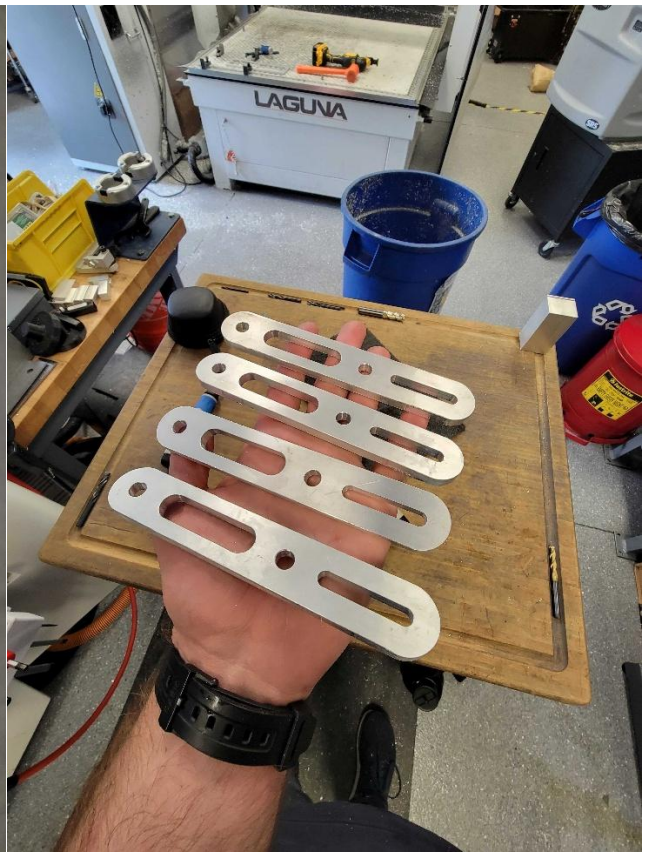

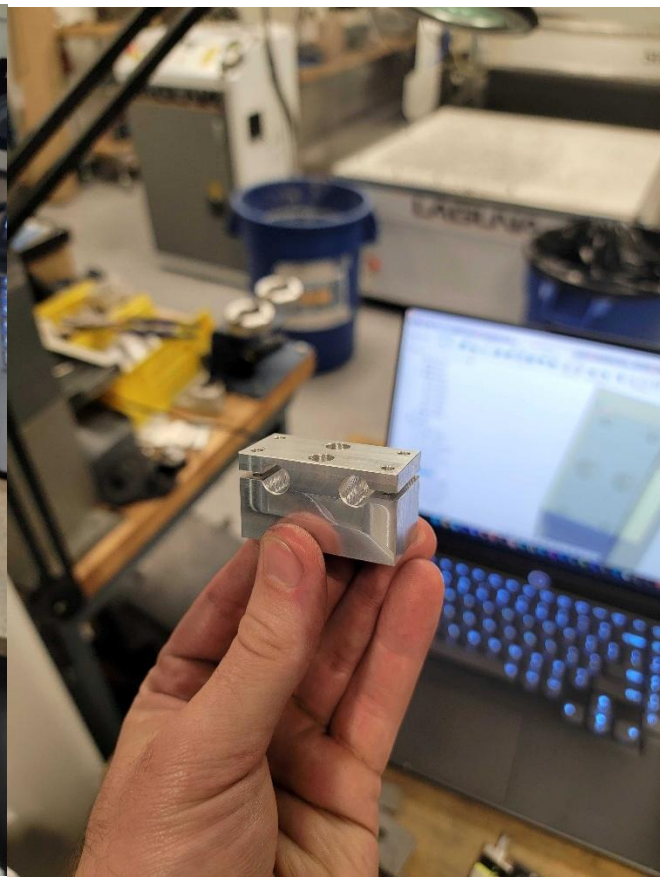

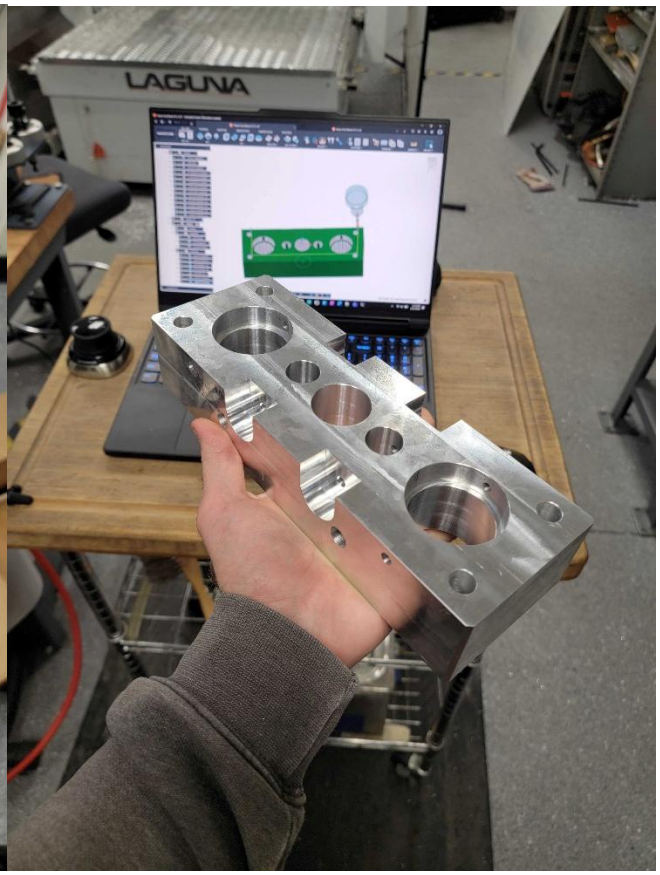
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